

Nurse Manager Span of Control and Employee Engagement in an Intensive Care Unit

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By

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Abstract

The purpose of this project was to answer the question, “Will decreasing the span of control for the nurse manager of an intensive care unit increase employee engagement?” A naturally occurring pre-post test design was chosen to measure employee engagement. A nursing leadership redesign occurred on seven different nursing units. As part of the nursing division’s strategic plan, the redesign decreased the number of employees directly reporting to a nurse manager, defined as span of control. To decrease the number of variables for this project, the intensive care unit management and staff were utilized. This project occurred in a 10-county regional medical center in south-central Ohio. Data analysis was conducted by a contractual agreement and results were provided for each nursing unit.

Dedication

This document is dedicated to my family.

Acknowledgments

This project would not have been possible without the support of my colleagues and friends from Adena Regional Medical Center, along with the members of my committee. I would like to thank the nursing management team at Adena Regional Medical Center for their leadership and dedication to the nursing profession. I would also like to express my sincere appreciation to my fellow Doctorate of Nursing Practice graduates from the first graduating class at The Ohio State University.

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Chapter 1: Introduction

Problem

Health care systems are dynamic organizations that must keep a balance between fiscal responsibility and quality patient outcomes. Health care reform has highlighted the struggle between resources and quality outcomes. In an attempt to meet financial, operational, and quality goals, systems often adjust management structures. This can result in managers having responsibility for large groups of employees with these changes, unintended consequences such as job satisfaction, quality, and engagement are often affected, but seldom measured during or after structural change occurs (Laschinger, Shamian, & Thomson, 2001).

Health care systems are complex and they rely upon a variety of health care professionals. This complexity does not take away from the fact that health care systems are dependent upon nurses to provide quality care in a cost effective manner (Laschinger, Wilk, Cho, & Greco, 2009). Nurses are typically managed by middle management positions with the title of nurse manager. These positions are responsible for the day to day management of their units, personnel, patient safety, recruitment, retention, and assisting the organization to meet system goals and objectives. Depending upon the size of the nursing unit and support staff, nurse managers can have oversight for fifty to one hundred employees. Span of control for the purpose of this project is defined as the number of employees reporting to a nurse manager and the term employee refers to the registered nurse.

Healthcare and financial environments are extremely competitive. Meeting organizational goals is best accomplished when nurse executives use resources wisely by providing the support necessary for managers to be successful. Meeting and achieving

organizational goals can be accomplished when staff are engaged in the process. Engagement has been defined by Harter as the ‘individual’s involvement and satisfaction as well as enthusiasm for work’ (Harter, et al., 2002, p. 269). This definition will be used for this project as it is congruent with the definition used by Gallup. When managers are responsible for a large group of employees, their ability to motivate, guide, and direct is lessened (Doran, et al., 2004). Lack of engagement is often viewed as burnout that often turns to turnover or poor performance (Maslach & Leiter, 2004). One study by Doran, et al. (2004) stated that “for every 10 additional nurses in a manager’s span, unit turnover increased by 1.6%. The results of this study were the first to provide empirical evidence on the relationships between nursing turnover rate and patient satisfaction. Turnover can have a negative impact on the workplace environment and quality. If nurse managers can support an environment that provides resources, information and support while they work with a smaller workforce, they will have the time to mentor and coach their teams and improve performance (Cathcart, et al., 2004). According to Maslach and Leiter (2004) a sense of engagement leads to energy, involvement, and effectiveness. Decreasing span of control could also lead to decreased turnover and higher quality outcomes, but those outcomes will not be measured in this project.

The competitive health care environment along with decreasing reimbursement emphasizes the need to address employee engagement. Engaged employees have a positive effect on customer ratings, profitability, productivity, turnover, safety incidents, absenteeism, patient safety incidents and quality (Harter, Schmidt, Killham, & Agrawal, 2009). These effects save human and financial resources and allow health care providers to provide safe, efficient and quality health care.

This project supports the Doctorate of Nursing Practice (DNP) degree as outlined in *The Essentials of Doctoral Education for Advanced Nursing Practice (2006)*. This project supports the DNP Essentials through a practice change that involves leadership change based on management research that has the potential to enhance patient outcomes. The purpose of this project is not to generate new knowledge, but to utilize the nursing research that is already available to enhance quality outcomes. This project will allow the author to increase leadership skills and therefore, strengthen practice and the delivery of healthcare. The DNP graduate must be able to evaluate health care delivery systems from an organizational and systems approach.

Purpose

The purpose of this project was to answer the question “Will decreasing the span of control for a nurse manager in an intensive care unit increase employee engagement?” The change project was based on an organizational assessment that outlined the number of employees reporting to each nurse manager. The past nursing leadership structure had nurse managers supervising up to 100 employees on one to two different nursing units. Seven different nursing units participated in the Gallup Employee Engagement survey conducted in October 2009. Employee engagement results from 2009 demonstrated a low level of engagement from staff nurses. Participation rates for these nursing units ranged from 80% to 100% with a score ranging from 3.36 to 3.87 as the highest, out of a possible mean score of 5. The nursing unit involved with this project had a mean score of 3.48 and an 89% participation rate. The other units are not part of this project due to changes in patient populations, unit locations, and management during the time of this project, October 2009 to October 2010.

Nurse manager span of control was redesigned to decrease the number of employees reporting to each nurse manager. A previous study (Cathcart, et al., 2004) demonstrated that employee engagement increased when nursing leadership was responsible for 40 or less employees. This metric was used for the redesign of nursing leadership at the project facility. If a nursing unit had more than 40 employees, the unit leadership was redesigned to consist of a nurse manager and assistant nurse manager. The GallupQ12 was given in October 2009 in the form of an online survey. This survey was then offered October 2010 to measure employee engagement with the new leadership structure in place.

The Gallup Employee Engagement survey is an annual survey conducted by the organization. The organization completed a planned resurvey October 2010. The results from this survey allowed nursing leadership to support a smaller span of control for nurse managers. If decreasing the span of control did not have a impact on employee engagement, then the organization will need to review leadership development, turnover, and other established metrics that are not part of this project.

Significance

Nursing is a profession that offers individuals the power to impact lives. Therefore, nurse executives need to understand and recognize engagement as a fundamental element of quality patient care. Engagement attracts and retains nurses and drives quality results (Doran, et al., 2004). Practice environments need to support nursing at all levels to decrease burnout and to increase engagement (Laschinger & Leiter, 2006). Employee engagement has a positive effect on customer loyalty, profitability, productivity, employee turnover and safety outcomes (Harter, et al., 2009). Research demonstrates that employee engagement is an important predictor of job

satisfaction and the intent to leave the organization (Laschinger & Finegan, 2005). Turnover itself can be costly and extensive with replacement costs of nurses ranging from \$50,000 to \$75,000 per nurse replacement according to the project organization.

Health care financial structures are constantly changing. Centers for Medicare and Medicaid (CMS) have implemented a quality reporting program that decreases reimbursement payments to hospitals underperforming on quality metrics. This will have significant financial impacts on all health care facilities, especially as commercial insurances adopt the same reimbursement framework. Historically, nursing has been viewed as an expense to health care facilities, and their impact on cost avoidance has not been fully recognized. A study by Pappas (2008) demonstrates that the rate of adverse events in a group of medical patients was 21% and the rate in a surgical group was 14.4% with urinary tract infection being the most common adverse event in both groups. Nurses have the ability to enhance outcomes. Harter, et al. (2002) demonstrated that engagement improves quality, so nurse engagement could significantly impact reimbursement based on quality outcomes.

The financial significance of engagement in quality and turnover alone should encourage nurse executives to review the effect of span of control on employee engagement. Table 1 demonstrates the financial impact of adverse events upon health care systems. Most of these events could be prevented by nursing.

Table 1. Summary of Adverse Events Cost per Case (Pappas, 2008)

Adverse Event	Medical Patient/cost per event	Surgical Patient/cost per event
Medication Error	\$334	\$545
Fall	\$648	\$328
UTI	\$1,005	\$1,043
Pneumonia	\$1,071	\$1,631
Pressure Ulcer	\$2,384	\$25

Project Objectives

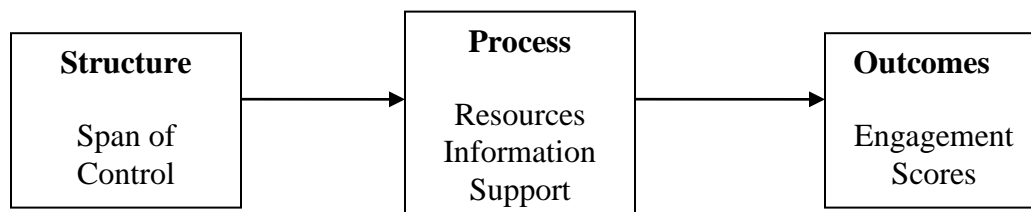
Nurse Manager span of control was redesigned with the intent to support stronger relationships between the manager and staff testing the antecedents of engagement. This project was designed to answer the following question: “Will decreasing the span of control for a nurse manager in an intensive care unit increase employee engagement?” The hypothesis for this project supports that decreasing the span of control for nurse managers will increase employee engagement.

Chapter 2: Review of the Literature

Theoretical Framework

Donabedian's original framework of structure, process, and outcomes will be used to guide this project. This classical work originated in 1966 and has guided three decades of quality measurement. Health care quality can be evaluated and measured from this structure. It is a linear model that assumes that structures affect processes and therefore outcomes are affected. This model is easily understood and lends itself to use in almost any type of change project. Through this framework the nurse manager will be given a structure that will allow him/her to manage a smaller group of employees. Processes will be built upon providing access to resources, information and support. Once structure and process are implemented then outcomes should be impacted either in a positive or negative manner.

Figure 1. Outcomes Model (adapted from Donabedian, 1966).



Literature Review

Span of Control.

Understanding the relationship between structure, process and outcomes must be well conceptualized when designing the ideal leadership structure. A concept analysis by Meyer (2008) reviewed over one hundred available publications. The major themes noted in this review included "span as supervisory capability, span as reporting structure, span as closeness of contact

by manager, managerial scope, and work group size.” Span is frequently measured as a ratio, the number of employees to manager. One study by Upenieks (2003) noted that a smaller span of control for nurse managers increased the manager’s accessibility, visibility, and responsiveness to staff. This structure has been recommended for hospitals with Magnet designation, a national recognition that promotes professional practice and exceptional nursing care supported by the American National Credentialing Center.

Span of control has been identified as the number of direct reports or employees (Cathcart, et al., 2004). This definition was used for this project. Cathcart, et al. (2004) demonstrated a direct link between span of control and employee engagement by utilizing the Q12 Gallup Employee Engagement survey, the same tool used at the project regional medical center in October 2009. The results of the study (Cathcart, 2004) demonstrated that managers with less than 40 employees increased employee engagement scores in the course of a year. The data also demonstrated a direct relationship between span of control and employee engagement, defined the number of employees for optimal span of control, and demonstrated the risk of having a large span of control for patient care areas.

Span of control and leadership studies have demonstrated that as span of control increases the impact of leadership style decreases (Lucas, Lashinger, and Wong, 2008; Doran, et al., 2004; Green, Anderson and Shivers, 1996). A study by Lucas, Lashinger, and Wong (2008) indicated that even managers with strong emotional intelligence had difficulty empowering staff if span of control was too large. Positive effects of different leadership types, such as transformational, were reduced in nursing units with wide span of control. Time constraints and demands for nurse managers with wide span of control limits opportunities for building

relationship with employees (Doran, et al., 2004; Green, Anderson, & Shivers, 1996). It is important and challenging for nurse managers and other leaders to connect with staff and a large span of control contributes to the difficulty even for emotionally intelligent and transformational leaders (Lucas, et al., 2008; Doran, et al., 2004). McCutcheon, et al. (2004) also concluded that the positive effect of transformational leadership style on nurse's job satisfaction was reduced in units with wide spans of control. These managers were not able to develop close relationships with staff, or provide support and individual consideration. A large span of control not only impacted engagement, but also nursing turnover. Doran, et al. (2004) demonstrated that for every additional 10 employees reporting to a manager turnover increased by 1.6%.

A key characteristic supported by Magnet designated organizations is the density of its nursing management structure relative to its nursing personnel. Magnet is a national recognition program that supports professional nursing practice and recognizes nursing excellence. Magnet standards support the relationship between management's visibility and responsiveness and job satisfaction and empowerment (Upenicks, 2003). Staff empowerment and engagement are supported in the Magnet model, through the promotion of transformational leadership style and organizational structures where staff can contribute to the decision making process on their nursing units.

Managers maintain accountability for safe, competent and coordinated care by nursing staff and enable nurses to carry out complex roles while fostering professional growth and development. Three components of span of control have been documented in the literature including the frequency and intensity of the relationship between the manager and staff; complexity of the work; and the capabilities of the manager and the staff (Lucas, et al., 2008).

Best practice studies by Gallup Corporation demonstrate that a manager who is open to employees and takes the time to care not only about their work life but their personal life influences the level of employee engagement (Blizzard, 2003). As healthcare organizations become larger and more complex it is hypothesized that a reduction in span of control and workload will improve the role effectiveness of front line managers, as well as job satisfaction. The reduction in the number of staff a manager has to oversee has been shown to positively influence patient and staff outcomes (Lee & Cummings, 2008).

Other industries have studied span of control and outcomes. Negative effects of span of control have been studied by the airline industry that found small supervisory spans of control improved performance through the manager's positive effect on work group processes (Gittell, 2001). The same result was discovered in a chemical plant with noted higher rates of unsafe behaviors and work safety accidents (Hechanova-Alampay & Beehr, 2001).

Engagement.

Engagement has been defined by Harter as the 'individual's involvement and satisfaction as well as enthusiasm for work' (Harter, et al., 2002, p. 269). The definition will be used for this project as it is the definition used by Gallup. Nursing literature supports a relationship between work engagement and organizational outcomes that include performance based outcomes (Harter, Schmidt, and Keyes, 2002; Laschinger and Finegan, 2005, Laschinger and Leiter, 2006). Harter, et al. (2002, 2003) describe employee engagement as occurring when individuals are "emotionally connected to others and it is understood that the individual's involvement and satisfaction as well as enthusiasm for work" (Harter, et al., 2002, p. 269).

Research on engagement has been intensely studied by the Gallup Organization TM, a large customer survey organization”. A meta analysis of GallupTM data from 42 studies conducted in 36 independent companies provides empirical evidence for the relationship between employee engagement and several organizational outcomes including turnover, customer satisfaction and safety resulted in the strongest relationships to employee engagement (Harter, et al., 2002). Simpson’s (2009) literature review supports the findings regarding work environment and its relationship to the quality outcomes.

Employee engagement is an important predictor of job satisfaction and intentions to remain in the organization. Positive employee outcomes are likely when environments promote employee engagement (Laschinger and Finegan, 2005). Establishing an environment that promotes engagement is important for nurse managers as they support retention and recruitment strategies. According to Laschinger and Finegan (2005) empowerment is a one approach to create this environment. The management literature acknowledges empowerment as the basis for organizational structure and it is recognized throughout Magnet recognition programs. In order for empowerment to occur access to resources, information and support must be present. Nurse managers must have a realistic span of control to support these elements otherwise their responsibilities are expanded while impact is lessened (Lucas, Lashinger, & Wong, 2008). The literature supports the notion that there is a relationship between less complex work and span of control. If a manager has less intense responsibilities and the work is not complex, than span of control becomes less of a factor in the employee-management relationship (Lucas, et.al, 2008).

Chapter 3: Methods

Research Design

A retrospective review of data generated in a naturally occurring experiment using a pre and post test design was supported for this project (Campbell & Stanley, 1963).

O1 X O2

O1 routine QI survey 1

X agency organizational change

O2 routine organizational survey 2

A naturally occurring pre-test post test design was used to address the following project question: “Will decreasing the span of control for the nurse manager in an intensive care unit increase employee engagement?” The study design supported the author’s ability to use current pretest information and groups. A regional medical center in south central Ohio served as the site for the project. Forty four employees from a 12 bed intensive care unit were selected as the exemplar unit. The regional medical center contracts with the Gallup Corporation on a yearly basis to conduct the Gallup Q12 Employee Engagement survey. Survey results from October 2009 and October 2010 were used to measure the efficacy of a management redesign as part of the nursing division’s established strategic plan. Information from the 2009 survey was reviewed as the pretest using the Gallup Q12 Employee Engagement survey (Harter, Schmidt, Killham, & Agrawal, 2009). The exemplar unit had an 89% participation rate in 2009 and 100% participation rate in 2010.

The management redesign was part of nursing's overall strategic plan. The purpose of the redesign was to decrease the nurse manager's span of control by decreasing the number of employees reporting to him/her. The opportunity to influence individual employees increases by decreasing the number of employees that report to a manager. The first phase of redesign was completed in June 2010. The nurse manager had 67 employees prior to the redesign and 44 employees after the redesign. The Gallup Q12 Employee Engagement survey then occurred in October 2010. There were two data gathering points for this project, the Gallup Q12 survey that was conducted in October 2009 (prior to redesign) and the October 2010 Gallup Q12 survey that occurred after the management redesign.

The Intensive Care Unit (ICU) was selected as the exemplar unit for this project. Out of the seven possible units considered for this study, the ICU was the most stable in terms of nurse manager leadership, staff turnover, care model and patient population. The nurse manager had been in position since November 2009, one month after the Gallup Q12 was offered in October 2009. The unit had a low turnover rate of 5%, this allowed the same employees to respond to the pre-post employee engagement survey from the Gallup Corporation. The patient population, comprised of medical and surgical patients remained approximately the same from 2009 – 2010.

The Gallup Corporation, a proprietary organization, developed the Q12 Employee Engagement Survey. Study collection procedures and methods are supported by the Gallup Organization™ in Washington, D.C., a public polling organization that specializes in business and health care. Each year, every employee within the project health system receives a letter from Gallup Corporation that is given to them by their manager, along with an email describing the survey process and provides respondents with an access code to the website where the survey

can be completed. The survey, consisting of fifteen questions takes approximately 5 minutes, on average, to complete. The survey process occurs over a two week period. The letter of instruction provided to the employees by their manager asks them to respond to questions using a Likert Scale of responses that range from “strongly disagree to strongly agree.” The online survey requires respondents to provide consent to participate by indicating as “yes” (agree to do survey) or “no” (do not agree to do survey), prior to beginning the survey. Data collection, quality assurance, data management and analysis are completed by the Gallup Organization. The author has been in contact with Gallup™ seeking information for describing protocols and data management. Gallup Corporation does not fully disclose this type of information. The Cronbach’s alpha for the total instrument that includes the 12 questions from the Q12 is .91 (Harter, et al., 2006).

Sample

A convenience sample of approximately 44 employees within the Intensive Care Unit (ICU) was chosen for this project. The selected nursing unit is part of a 250 bed regional medical center supporting a 10-county region in south central Ohio. Inclusion criterion for taking the Gallup Q12 online survey was any employee who works at least 20 hours a week. The intensive care unit had an 87% participation rate in 2009 and 100% participation rate in 2010. The unit currently had a 5% turnover rate with only 2 employees leaving the unit. The 2009 Gallup survey resulted in a mean score of 3.62 which is below the Gallup Healthcare 50th percentile as compared to other healthcare facilities. According to Gallup, 12 of the 15 questions on the survey are antecedents to employee engagement. Results from the existing Gallup survey

demonstrated low scores for the antecedent questions “I have the materials and equipment I need to do my work right” and “At work, I have the opportunity to do what I do best every day.”

Methods

For thirty years, the Gallup Corporation TM has been using the Q12 survey instrument to measure overall employee engagement. The Q12 has been administered to more than 15 million employees in 169 different countries. Several meta-analysis have been completed on the Q12 instrument to review the tool and the overall business results. In 2006, a Q12 Meta-analysis examined a total of 166 studies and included 125 independent organizations, 23,910 business units, and 681,799 respondents. The meta-analysis reviewed the Q12 questions and the overall business performance including customer loyalty, profitability, productivity, turnover, safety and health, absenteeism and shrinkage (Harter, et al., 2006). A total instrument score or the grand mean score on the Q12 has a Cronbach’s alpha of 0.91. The correlation of engagement to composite performance had a reliability composite metric of 0.89.

According to Gallup, Engagement has 12 antecedents (Harter, et al., 2009). Listed below are the antecedent questions that support engagement.

1. I know what is expected of me at work
2. I have the materials and equipment I need to do my work right
3. At work, I have the opportunity to do what I do best every day
4. In the last seven days, I have received recognition or praise for doing good work
5. My supervisor, or someone at work, seems to care about me as a person
6. There is someone at work who encourages my development
7. At work, my opinion seems to count
8. The mission or purpose of my company makes me feel my job is important
9. My associates or fellow employees are committed to doing quality work
10. I have a best friend at work
11. In the last six months, someone at work has talked to me about my progress
12. This last year, I have had opportunities at work to learn and grow

Every employee in the health system received an invitation to participate in the Gallup Q12 Employee Engagement survey. Responding to the survey is interpreted as consent. The survey is online and password protected without individual information. The employee is asked to respond to 15 Likert questions. Results are processed by Gallup Corporation in Washington, D.C. and reported through a mean score per question with a grand mean score for each nursing unit and then rolled up into the nursing division results.

Data analysis was conducted by the Gallup Corporation and results were provided in terms of a mean score for each individual question, and a grand mean score as a mean of all 12 questions for each nursing unit, including the intensive care unit for this project.

Instruments

Employee engagement is measured by the Q12 online survey. The survey has a total of 15 questions. Twelve questions are based on the antecedents of engagement. Response options to each Each of the 15 questions is based on a Likert scale ranging from 0 (don't know/does not apply), 5 (strongly agree), 4 (agree), 3(neutral), 2 (disagree), and 1(strongly disagree). Items are rated on a 6-point Likert scale with higher scores representing agreement that the antecedent for engagement is present. The twelve antecedent questions are then averaged for a grand mean score ranging from 1 – 5 with higher scores representing a higher level of employee engagement.

Data Analysis

A retrospective analysis of the results was reviewed by the author. This analysis consisted of the author reviewing the overall employee engagement score by comparing the 2010 grand mean score to the 2009 grand mean score. According to Gallup a movement of .2 in the grand mean score is significant. Individual question scores will then be reviewed and compared to the results from

2009 to determine positive or negative movement within the Q12 questions. Participation rate from 2010 to 2009 was reviewed to measure sample size from 2009 to 2010. Since turnover rates for the unit can influence internal validity it will also be reviewed. A paired t-test will be used to compare the results from 2009 and 2010.

Chapter Four: Findings

Results

To determine if decreasing nurse manager span of control in an intensive care unit would increase employee engagement a leadership redesign was completed as part of the nursing division's strategic plan. The Gallup Q12 Employee Engagement survey was taken throughout the organization and on this nursing unit before the leadership redesign and eleven months after the redesign. The nurse manager's span of control was decreased from 74 employees to 44 employees. Data analysis was completed by a contractual agreement with the Gallup Corporation and the results from the 2010 survey were available to the entire management team in December 2010. A paired t-test was used to compare the results from 2009 and 2010.

The total engagement score was calculated from the sum of the mean scores for the 12 antecedent questions from the Q12 survey. The total was averaged to establish a grand mean score for each nursing unit. Overall data results demonstrate statistically significant increase in grand mean scores from 2009 to 2010 with a grand mean score of 3.48 in 2009 and a grand mean score of 3.91 in 2010. The score demonstrates a positive movement of .43 and a higher level of engagement in 2010. Statistically significant movement on a business unit according to Gallup is a movement of 0.20. Antecedent questions that scored above a 4.0 demonstrate that staff members "agree" that these antecedents are present include:

Q1 - I know what is expected of me at work

Q5 - My supervisor or someone at work seems to care about me as a person

Q6 - There is someone at work who encourages my development

Q11 - In the last six months, someone at work has talked to me about my progress

Q12 - This last year, I have had opportunities at work to learn and grow

All other questions scored above a 3.0, which would mean that staff are “neutral” to the following:

- Q2 - I have the materials and equipment I need to do my work right
- Q3 - At work, I have the opportunity to do what I do best every day
- Q4 - In the last seven days, I have received recognition or praise for doing good work
- Q7 - At work, my opinion seems to count
- Q8 - The mission or purpose of my company makes me feel my job is important
- Q9 - My associates or fellow employees are committed to doing quality work
- Q10 - I have a best friend at work

None of the antecedent questions scored lower than a 3 on the Likert scale. Scores of 2 indicate disagreement by staff that the antecedent was present and a score of 1 indicate strong disagreement by staff with the antecedent being present within the nursing unit. The lowest scoring question relates to “having the materials and equipment to do my job right” with a mean score of 3.13 and the highest scoring question had a mean score of 4.56 and supports the antecedent of “my supervisor or someone at work, seems to care about me as a person.”

Table 2. Results from 2009 and 2010 Q12 Employee Engagement Survey

Year	n	Grand mean	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
2009	67	3.48	4.15	2.89	3.19	3.05	3.93	3.60	2.67	3.16	3.87	3.30	4.20	3.75
2010	45	3.91	4.27	3.13	3.91	3.79	4.56	4.22	3.48	3.64	3.82	3.70	4.16	4.30
Difference	22	.43	.12	.24	.72	.74	.63	.62	.81	.48	-.05	.40	-.04	.55

Statistically significant mean score movement according to Gallup is a movement of .20 on a business unit level. The table below demonstrates each question and the mean score difference between 2009 and 2010.

Table 3. Mean Score Difference

Gallup Q12 Question		Mean Score Difference 2009/2010
Q1	I know what is expected of me at work	.12
Q2	I have the materials and equipment I need to do my work right	.24
Q3	At work, I have the opportunity to do what I do best every day	.72
Q4	In the last seven days, I have received recognition or praise for doing good work	.74
Q5	My supervisor, or someone at work, seems to care about me as a person	.63
Q6	There is someone at work who encourages my development	.62
Q7	At work, my opinion seems to count	.81
Q8	The mission or purpose of my company makes me feel my job is important	.48
	My associates or fellow employees are committed to doing quality work	-.05
Q10	I have a best friend at work	.40
Q11	In the last six months, someone at work has talked to me about my progress	-.04
Q12	This last year, I have had opportunities at work to learn and grow	.55
GM	Grand mean score	.43
	Sample Size Difference	22

Ten of the twelve questions had positive movement and nine of the twelve antecedent questions had statistically significant movement greater than .20. Two antecedent questions had negative movement, but the movement was less than .20, therefore not statistically significant. The question with the highest statistical difference in means scores from 2009 and 2010 was Q7 – “At work my opinion seems to count.” This question influences the employees’ ability to take greater ownership for outcomes (Harter, et al., 2009). Followed by Q4 “In the last seven days, I have received recognition or praise for doing good work,” and Q3 “At work, I have the opportunity to do what I do best every day.”

A paired t-test was performed to determine if manager span of control had a positive effect on employee engagement. The mean engagement ($M = 3.14$, $SD = .145$, $N = 11$) was

significantly greater than zero, $t(10) = 5.144$, two tailed $p = .00021$, providing evidence that decreasing manager span of control is effective in increasing employee engagement. At the alpha level of 0.05 the p value was 0.00021747. Therefore the null hypothesis of span of control does not decrease employee engagement is rejected. At a 95% CI, this project has a high probability of being replicated.

Nursing leadership changes between 2009 and 2010 included decreasing the span of control for the nurse manager responsible for the intensive care unit. Gallup results from 2009 demonstrate that 67 employees completed the survey with a grand mean Score of 3.48. In 2010, 44 employees completed the survey with a grand mean Score of 3.91, very close to the “agree” response on the Q12 Likert scale online survey ($t = 0.00021747$, $p < .05$). The mean score increase demonstrates a positive movement of .43 with the nurse manager’s span of control decreasing by 22 employees, from 67 employees in 2009 to 44 employees in 2010.

Discussion

The purpose of this project was to answer the question, “Will decreasing the span of control for the nurse manager of an intensive care unit increase employee engagement?” The project replicated an earlier study by Cathcart, et al. (2004) wherein work groups larger than 40 indicated decreased employee engagement. In Cathcart’s study (2004) managers had responsibility for more than 80 employees and additional managers were hired to decrease the span of control. Span of control decreased from 30 – 50% with the addition of 4 managers. The decrease in span of control increased employee engagement on four different nursing units with increases of mean scores ranging from .12, .22, .36, and .44 respectively. The nursing unit in this project had a 40% reduction in nurse manager span of control and employee engagement

increased .43 in grand mean score; statistically significant according to Gallup. There is also evidence to support a rejection of the null hypothesis that decreasing span of control has no effect on employee engagement ($t = 0.00021747$, $p < .05$).

The nursing division at the project site had a strategic plan that included decreasing the span of control for each nurse manager. Based from the results of previous work (Carthcart, 2004), if a nurse manager had more than 40 employees reporting to them, they would be assigned an assistant nurse manager to decrease their span of control. The management structure in 2009 required nurse managers to be responsible for one or more units and up to 80 employees. After the Gallup survey in 2009, the intensive care unit was given its own nurse manager with a span of control of 44 employees. This decreased the span of control from 74 to 44. The Gallup survey was then completed in 2010; eleven months after the nurse manager span of control had been decreased.

Gallup survey results measure employee engagement by providing a mean score for 12 individual questions. The individual mean scores are then divided to achieve a grand mean score. This grand mean score demonstrates improvement or decline in overall employee engagement. The grand mean score for the intensive care unit for this project increased by .43, this is significant movement according to Gallup. A closer look at the results demonstrates positive movement in 10 of the 12 questions that measure employee engagement.

Conclusions

Evidence supports that decreasing span of control for nurse managers has a positive impact on employee engagement (Lucas, Lashinger, and Wong, 2008; Doran, et al., 2004; Green, Anderson and Shivers, 1996; Cathcart, 2004). The intensive care unit remained relatively stable in

other variables that could influence the results. The nursing unit had a 5% turnover rate that equaled 2 employees leaving the unit since the pretest was completed. Therefore, the same staff took the pretest and post test. The unit patient population and model of care remained the same from the time the pretest and post test was offered. The medical direction and support services remained the same throughout the period of the project. The one concept that has the capability of influencing engagement that was not measured during this project was the change in leadership style from the previous nurse manager to the current. Existing literature demonstrates that regardless of leadership style, a wide span of control negatively influences the effects of leadership ((Lucas, Lashinger, and Wong, 2008; Doran, et al., 2004; Green, Anderson and Shivers, 1996). Leadership style has the potential to influence engagement, but there is evidence to support that style is not critical to engagement.

Chapter Five: Summary

Summary

The change project was developed using Donabedian's (1966) original work of structure, process, and outcomes. The structure for this project involved the nursing leadership and the number of employees reporting to the manager. Once span of control was decreased for each nurse manager, they had the potential to manage a smaller group of employees and the possibility of building processes that would support resources, information and support. Once employees had these processes in place they would then have the ability to become more engaged in their work.

Engaged employees have a positive effect on customer ratings, profitability, productivity, turnover, safety incidents, absenteeism, patient safety incidents and quality (Harter, Schmidt, Killham, & Agrawal, 2009). These effects save human and financial resources and allow health care providers to provide safe, efficient and quality health care. There is evidence in this project to support that nurse manager span of control effects employee engagement as in other studies (Lucas, Lashinger, and Wong, 2008; Doran, et al., 2004; Green, Anderson and Shivers, 1996; Cathcart, 2004). Therefore, span of control should be considered in health care organizations as financial and quality goals are achieved.

Limitations

This project demonstrates that decreasing the span of control for nurse managers can have a positive effect on employee engagement. The setting in an intensive care unit was relatively stable and this could enhance the engagement amongst staff members. Intensive care unit nurses' personality could vary from nurses caring for different types of patients. This could

affect the nurse manager's ability to build a process around resources, support, and information. The sample size of this project $n=44$ was small when considered on a macro level of an organization. The manager's length of time in her position could have influenced staff's perception within the unit, since the manager had only been on her unit for a total of 11 months from the time of the pre to post test.

Implications

The project demonstrates that decreasing the span of control for nurse managers can have a positive effect on employee engagement. This project was a replication of Cathcart's study in 2004. The original study had a larger sample size and the results of this project support those of Carthart's (2004) study. With the decreases in reimbursement and the emphasis on quality, it is important to remember the correlation in previous studies between engagement and quality.

The results of this project can be generalized and used in this organization as it moves forward with leadership development of nursing leaders ($t = 0.00021747$, $p < .05$). The sample was a random sampling of employees in the intensive care nursing unit. Nursing characteristics between nurses on an intensive care unit compared to other nursing units should be considered. Transformation leadership style along with emotional intelligence training has the potential of enhancing the results of this leadership structure. This project emphasizes that span of control can have an influence on employee engagement and therefore, could have a positive influence on quality results.

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Appendix A



Adena Health System Nursing Strategic Plan

Purpose:

The Health System's Nursing Strategic Plan identifies the Clinical Practice Guidelines for nursing practice in an integrated healthcare system. It aligns our professional energies with the goals and strategies of the system's strategic plan. The Nursing Strategic Plan provides a framework for professional nursing to achieve excellence in evidence-based practice patient care.

Vision:

Adena Health System's nurses will be the best nurses in the nation. This Vision will be achieved through an emphasis on Nursing Engagement, Empowerment, Education and Evidence-Based Practice with an eventual attainment of Magnet Status.

Definition of Nursing:

Nursing at Adena Health System is the integration of nursing and the process of utilizing evidence-based practice in the inpatient and outpatient setting. The professional autonomy of the registered nurse drives the delivery of nursing care. Evidence-based nursing practice includes assessment, planning, intervention, and evaluation for each patient and is coordinated with the medical plan of care. Collaboration with all members of the health care team is essential to coordinate care across the health care continuum.

Philosophy of Nursing:

- Nurses develop knowledge and promote professional Clinical Practice Guidelines by supporting, participating in, and conducting nursing research, applying research from nursing and related fields to clinical nursing practice
- Nurses provide competent and compassionate care with respect for the dignity and individuality of patients and families
- Nurses emphasize wellness and preventive health maintenance through teaching opportunities with patients and families
- Nurses recognize that patients, families, and communities are important partners of the health care team and encourage their involvement in planning, decision making, and coordination of care

Adena Health System Nursing Strategic Plan

Philosophy of Nursing (continued)

- By virtue of their close patient relationships, nurses assume a leadership role in the coordination and delivery of care throughout the health care continuum
- Nurses advocate for patients and families and assure that they receive thorough information on their health status and treatment options
- Nurses are professionally competent and advance their professional development by modeling nursing practice that is evidence-based, fiscally sound, and integrated with research. Nurses at Adena Health System have the opportunity to participate in research, continuing education, and to seek specialty certification.

Vision Goal:

“Achieve Magnet Hospital Recognition.” This goal promotes and supports the Health System’s vision of transitioning from a good organization to a great organization. To accomplish this goal the following key components must be achieved:

- Standards for improving the quality and outcomes of patient care are an integral part of evidence-based practice.
- Processes enhance the patient/family experience.
- Knowledge and service are aligned with a community of care.
- The environment of practice is dynamic and innovative.
- The Forces of Magnetism are present.
- Management philosophies support evidence-based practice.
- The Chief Nursing Officer and nursing leadership support evidence-based practice and value the continued competence of nursing personnel.

Nursing Leadership:

The Chief Nursing Officer / System Director of Acute Care Services is a registered nurse and will in collaboration with the Nursing Leadership Team and nursing staff interact collaboratively to actualize the values of the organization. This includes establishing evidence-based practice, developing and implementing policies and procedures, and process excellence improvement activities.

- Nursing Leadership consults with the medical staff, quality and legal services as well as human resources to establish and develop evidence-based practice and staff expertise.
- Nursing Leadership actively supports and participates in activities to improve the quality of patient care as well as the professional growth and development of nursing staff.
- Nursing leadership fosters and promotes collaborative practice and effective communication processes with physicians and other health care team members.
- Nursing Leadership promotes planning and processes to provide exceptional patient/family experiences.

Adena Health System Nursing Strategic Plan

Standards of Nursing Practice:

Standards for Nursing Practice reflect the Adena Health System Mission and Nursing Philosophy. They are the foundation for unit/departmental specific evidence-based practice. Nursing will:

- Provide high quality, appropriate, effective and efficient care to patients in various states of health through a continuous process of data collection, assessment, planning, intervention and evaluation of outcomes.
- Involve the patient and family in development and implementation of the plan of care for health promotion, restoration and maintenance.
- Provide processes for exceptional patient/family care experiences.
- Promote a safe environment.
- Coordinate care across the continuum for patients and families.
- Promote continued excellence in nursing through evidence-based practice, evaluation of clinical practice, education and study and integration of relevant research activities.
- Promote communication within the community that supports organizational growth.

Magnet Standards of Care and Professional Performance:

Opportunity to demonstrate where nursing care made a significant difference in patient care.

I. Assessment

Nursing creates evidence-based practice examples to demonstrate how these support the practice of nursing and positively impacts patient care.

II. Diagnosis

Nursing provides leadership with multidisciplinary teams towards the implementation of care guidelines that enhance patient outcomes.

III. Outcome Identification

Nursing Identifies innovative examples of evidence-based practice changes that positively impact patient outcomes as a result of outcome studies.

IV. Planning

Nursing participates in strategic and clinical planning initiatives and implements care that positively impacts patient/family outcomes and experiences.

V. Implementation

Nursing identifies systematic examples of patient/family centered planning of care improvement.

**Adena Health System
Nursing Strategic Plan**

Magnet Standards of Care and Professional Performance (continued)

VI. Evaluation

Nursing identifies specific patient/family centered outcome results of studies and:

- a.) Utilizes nurse-sensitive quality indicators in the assessment elements of patient care
- b.) Utilizes evidence-based assessment processes, current research findings and practice standards to review and modify care practices
- c.) Monitors and evaluates assessment processes that are sensitive to the unique and diverse needs of patients/families.
- d.) Identify and document resources to support data collection and appropriate level of resource allocation to nursing services.
- e.) Analyze workflow to assure effective and efficient utilization of resources.
- f.) Establish criteria to assure confidentiality and privacy of information.
- g.) Ensure coordinated interdisciplinary planning for care across the continuum.

VII. Continuous Quality Improvement

- a.) Identify key nurse sensitive quality indicators to monitor and evaluate
- b.) Benchmark outcomes against regional and national targets
- c.) Nursing staff actively participate on interdisciplinary quality teams

VIII. Performance Appraisal

- a.) Nursing staff evaluations include assessment of professional practice and development and opportunities for improvement.
- b.) Evaluations include input from self, colleagues, physicians, and patients/families.

IX. Education

- a.) Nursing leadership and staff demonstrate progress towards professional development targets such as BSN, masters and/or specialty certification goals.
- b.) Nursing leadership and staff participate in active networking with peers at the local, state and national levels.

X. Collegiality

- a.) Planning for clinical development and staffing is completed in a team environment with a multidisciplinary approach.
- b.) Nursing is organized with a shared governance structure to enhance staff contributions to planning and decision-making.

XI. Ethics

- a.) Decision-making processes are based on ethical principles
- b.) Nursing leadership and staff actively participate on Ethics committee
- c.) Patient's rights are clearly documented and promoted

**Adena Health System
Nursing Strategic Plan**

Magnet Standards of Care and Professional Performance (continued)

XII. Collaboration

- a.) Nursing staff participates in clinical decision making and clinical development through shared governance structures.
- b.) Nursing leadership promotes opportunities for advance practice nurses and participates in their credentialing process.

XIII. Research

- a.) Nursing leadership and staff actively participates in nursing research and implements findings into professional practice.

XIV. Resource Utilization

- a.) Nursing leadership and staff utilize evidence-based research to develop recommendations for resource allocation and workforce design.
- b.) Nursing leadership and staff hold formal leadership positions that ensure that appropriate resources are allocated to clinical programming and nursing development.